

Camille Dunning

EDUCATION

Bachelor of Science, Data Science

University of California San Diego, La Jolla, CA
Provost Honors

June 2023

PROFESSIONAL EXPERIENCE

Data Science and Engineering Intern

January 2023-Present

Tesla, Fremont, CA

- Quality Data Engineering Team. Docker, Kubernetes, Airflow, Jupyter, SQL.

Undergraduate Researcher

UC San Diego, La Jolla, CA

March 2022-Present

- **Cool Star Lab (Professor Adam Burgasser)**: Classifying spectral binaries in large database of brown dwarfs, and using multi-label classification to decompose known and synthetic spectral binaries into primary and secondary types. Research note submitted to RNAAS, writing a full paper to publish to the American Astronomical Society.
- **Existential Robotics Lab (Professor Nikolay Atanasov)**: Reinforcement learning using OpenAI mujoco physics engine, stable_baselines3, robosuite, on tactile and visual data.

Jetson Embedded Computer Science and Robotics Intern

September 2022-December 2022

NVIDIA, Santa Clara, CA

- Created synthetic dataset for semantic segmentation, and object generation using NVIDIA Omniverse Replicator, based on real objects reconstructed with NVIDIA Instant NeRF
- Engineered a production-ready transfer learning pipeline using NVIDIA TAO that trains a YOLO-v4 ResNet model on the synthetic dataset for CV tasks
- Presented solution to NVIDIA Solution Architects, official blog in the process of being published to NVIDIA's Developer Blog and Medium

Software Engineering Intern (Security)

Salesforce, Heroku Defensive Operations Team, San Francisco, CA

June 2022-August 2022

- Wrote string-matching rules in YARA to detect phishing in applications deployed to Heroku
- Tested rules in real-time canary state, analyzed causes of false positives chosen from Splunk logs
- Helped team decide feasibility of brand-based, as opposed to actor-based approach when writing phishing detection scripts

Deep Learning Intern

San Diego Supercomputer Center, La Jolla, CA

May 2022-September 2022

- Machine learning for cyber-infrastructure (Voyager and Expanse supercomputers)
- Prototyping VGG and MobileNet models on image datasets in data-parallel multi-GPU environment using PyTorch Lightning and CUDA

Undergraduate Research Scholar

Halicioğlu Data Science Institute, La Jolla, CA

January 2021-December 2021

- One of 20 students to be awarded the competitive \$2,500 Undergraduate Research Scholarship. Featured in a press release, and in the end, project was chosen as the best research project and presented to California Alliance for Data Science Education, based at UC Berkeley
- Mentored by Prof. Tara Javidi. Policy networks for adaptive quantitative group testing by randomly sampling rows of the Walsh-Hadamard matrix.
- Implemented an algorithm utilizing binary expansions of rows and index summing to arrive at the correct solution exponentially faster than previous research and for larger values of N .

Co-Founder and CTO

Cluvii, La Jolla, CA

July 2021-December 2021

- Sole backend, ML developer on up-and-coming mobile social media app, participating in the Incubator track in the UC San Diego Blackstone Launchpad and Rady StartR accelerator
- Building Django REST API and using Terraform, Docker, Nginx proxies, GitLab CI, AWS CI clusters (EC2, ECR, ECS, S3) for scaling and DevOps deployment automation

Data Engineering Intern

BlackRock, San Francisco, CA

June 2021-August 2021

- Built a prototype ETL pipeline for a cloud data warehouse in Snowflake and integrated with reporting systems, parallelized operations with Apache Camel Seda.
- Processed Camel logging files with Python and visualized trends in cost, ingestion/reporting time on CPU cycles.
- Stack: Java, SQL, Spring Framework, Spring Boot, Apache Camel, Ignite, Spark, JMeter, Python

Data Science/NLP Intern

Various San Diego AI Startups, San Diego, CA

November 2020-September 2021

- **Blooma AI:** Built a machine learning pipeline and REST API (using FastAPI) from scratch to extract key information from rent roll documents and reduced time for data labeling and processing procedures from weeks to seconds.
- **Tangible AI:** Contributed to the Python chatbot framework, qary, by implementing merging of different linear conversations into a graph structure based on intent, and listed as a contributing author to the best-selling NLP in Action, 2nd Ed.

Research Intern

Scripps Research Translational Institute, La Jolla, CA

May 2020-September 2020

- Supervised by Prof. Giorgio Quer, used signal dynamics methods such as cross-correlation to prove that trends of one vital function can be predicted from that of another.
- Solo paper, Exploring the Synchrony Between Body Temperature and HR, RR, and Aortic Blood Pressure in Viral/Bacterial Disease Onsets with Signal Dynamics, published on ArXiv.
- Participated and presented in journal club workshops on papers in Computational Biology and ML

SKILLS

Languages & Software: Python, R, MATLAB, Java, ROS, JavaScript, SQL, AWS, Terraform, GCP, Snowflake, Apache Camel, Airflow, TensorFlow, PyTorch, PyTorch Lightning, CUDA, Dask, PySpark, pandas, scikit-learn, YARA, D3.js, Django REST Framework, FastAPI, Kubernetes, Docker, robosuite

Data Science & Machine Learning: Deep Learning, Multimodal Machine Learning, Active Learning, Reinforcement Learning, Probabilistic Modeling, Regression and Classification, Linear Algebra, Multivariable Calculus

EXTRACURRICULAR ACTIVITIES, AWARDS, AND SCHOLARSHIPS

Extracurricular Activities: DataHacks 2022 Mentor, Qualcomm Institute Winter 2020 Learning Academy, IEEE Quarterly Projects and IEEE Project Drive (Reinforcement Learning), BlackStone LaunchPad and StartR Incubator participant (2x), Entrepreneurs' Club former VP Internal, Data Science Student Society former Online Content Director and Technical Lead

Awards: DataHacks 2021 Advanced Track Winner (only team with unanimous perfect score), Data Science Alliance Data Visualization Contest Winner, Data Mining course Kaggle competition, ranked 2/29, Provost Honors (3.5+ GPA for multiple successive quarters)

Scholarships: Halicioğlu Data Science Institute Industry-Sponsored Scholarship (one of two recipients, offered internship at Becton, Dickson Company, rescinded due to COVID-19), HDSI Undergraduate Scholarship